

WRITTEN AMENDMENT

(Amendment pursuant to the provision of Art. 11 of the Patent Law)

Attn: Commissioner of Patent Office

1. Indication of International Application: PCT/JP02/09327

2. Applicant:

Name: COMMUNICATIONS RESEARCH LABORATORY, INDEPENDENT
ADMINISTRATIVE INSTITUTION

Address: 4-2-1, Nukui-Kitamachi, Koganei-shi,
Tokyo 184-8795, Japan

Nationality: Japan

Location: Japan

3. Patent Attorney:

Name: (10866) OHKAWA Yuzuru

Address: Kaimei Patent Office, Sankyo Central Plaza
Building 5F, 11-8, Nishi-Nippori 5-chome,
Arakawa-ku, Tokyo 116-0013, Japan

4. Target of Amendment:

Scope of the claims and Drawings

5. Contents of Amendment:

(1) The scopes of claims 1, 4, 5, and 8 are entirely amended.

(2) FIG. 4 is corrected according to the description in the "Second Embodiment".

6. List of Attached Documents:

- (1) Pages 8 to 10 of the scope of the claims
- (2) Pages 3 and 4 of the drawings

CLAIMS

1. (Amended) A frequency hopping wireless communication method for performing communications in a frequency hopping system among a plurality of wireless communication terminals, characterized in that:

one transmitting station transmitting a reference local oscillation signal;

each of the plurality of wireless communication terminals modulates a transmission signal in the frequency hopping system using the intermediate frequency band modem, and demodulates a received signal;

each of the plurality of wireless communication terminals receives the reference local oscillation signal from the transmitting station, amplifies and band filtering the signal, regenerates the reference local oscillation signal by an injection synchronous oscillator or an amplifier, and using the signal as a local oscillation signal for use by a transmitting function and a receiving function;

generates a radio modulation signal by multiplying an intermediate frequency band modulation signal from an intermediate frequency band modem by a local oscillation signal, and transmits the radio modulation signal; and

generates an intermediate frequency band demodulation signal downconverted by multiplying a radio modulation signal by a local oscillation signal, and demodulates the signal in the intermediate frequency band modem.

2. The frequency hopping wireless communication method according to claim 1, further comprising

one transmitting station for transmitting only the reference local oscillation signal.

3. The frequency hopping wireless communication method according to claim 1, wherein

one of the plurality of wireless communication terminals acts as a base station or a parent station and transmits a local oscillation signal for use in the station together with a radio modulation signal, and each child station which is one of the other wireless communication terminals receives a reference local oscillation signal transmitted by the base station or the parent station.

4. (Amended) A frequency hopping wireless communication method for performing communications in a frequency hopping system among a plurality of wireless communication terminals, characterized in that:

in the plurality of wireless communication terminals, a transmitting unit inputs to a mixer a modulation signal generated in an intermediate frequency band and a frequency hopping signal obtained by a hopping synthesizer controlled by a hopping pattern generator, and obtains a frequency hopping radio signal; and amplifies an output signal of a hopping synthesizer used as a local oscillation signal in addition to a frequency hopping radio modulation signal of a single-side band wave or a both-side band wave by an amplifier without a band pass filter, and transmits the signal through an antenna, and

the receiving unit of the wireless communication terminal downconverts a received signal to a first intermediate frequency band signal using a local oscillation signal frequency hopping in a pattern obtained by adding a fixed frequency offset to a frequency hopping pattern corresponding to a desired received wave, and then, extracts two signal components, that is, a local oscillation signal component and a modulation signal component, by passing the downconverted signal through a band pass filter and generates a product component of the two

signal components, thereby regenerating a second intermediate frequency band modulation signal.

5. (Amended) A frequency hopping wireless communication system for performing communications in a frequency hopping system among a plurality of wireless communication terminals, comprising:

 a transmitting station for transmitting a reference local oscillation signal; and a plurality of wireless communication terminals each having an intermediate frequency band modem for modulating a transmission signal using the frequency hopping system and demodulating a received signal,

 wherein each of the plurality of wireless communication terminals includes: a transmitting unit for receiving the reference local oscillation signal from the transmitting station, amplifying and band filtering the signal, regenerating the reference local oscillation signal by an injection synchronous oscillator or an amplifier, using the signal as a local oscillation signal for use by a transmitting function and a receiving function, generating a radio modulation signal by multiplying an intermediate frequency band modulation signal from an intermediate frequency band modem by a local oscillation signal and transmitting the signal; and a receiving unit for generating an intermediate frequency band demodulation signal downconverted by multiplying a radio modulation signal by a local oscillation signal, and demodulating the signal in the intermediate frequency band modem.

6. The frequency hopping wireless communication system according to claim 5, further comprising

 one transmitting station for transmitting only the reference local oscillation signal.

7. The frequency hopping wireless communication system according to claim 5, wherein

one of the plurality of wireless communication terminals acts as a base station or a parent station and transmits a local oscillation signal for use in the station together with a radio modulation signal, and each child station which is one of the other wireless communication terminals receives a reference local oscillation signal transmitted by the base station or the parent station.

8. (Amended) A frequency hopping wireless communication system for performing communications in a frequency hopping system among a plurality of wireless communication terminals, characterized in that:

in the plurality of wireless communication terminals, a transmitting unit inputs to a mixer a modulation signal generated in an intermediate frequency band and a frequency hopping signal obtained by a hopping synthesizer controlled by a hopping pattern generator, and obtains a frequency hopping radio signal; and amplifies an output signal of a hopping synthesizer used as a local oscillation signal in addition to a frequency hopping radio modulation signal of a single-side band wave or a both-side band wave by an amplifier without a band pass filter, and transmits the signal through an antenna; and

a receiving unit of the wireless communication terminal downconverts a received signal to a first intermediate frequency band signal using a local oscillation signal frequency hopping in a pattern obtained by adding a fixed frequency offset to a frequency hopping pattern corresponding to a desired reception wave, and then, extracts two signal components, that is, a local oscillation signal component and a modulation signal component, by passing the downconverted signal through a band pass filter, and generates a product

component of the two signal components, thereby regenerating a second intermediate frequency band modulation signal.